

## ABSTRACT OF THE DISCLOSURE

The present invention relates to a micro-fastening system and, more particularly, to a mechanical micro-fastening system employing a plurality of mating nanoscale fastening elements (16, 18) and a method of manufacturing a micro-  
5 fastening system in accordance with the teachings of the present invention. The mating nanoscale fastening elements (16, 18) are formed by functionalizing nanotubes having an ordered array of hexagons with pentagons and heptagons at particular heterojunctions.